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<110> Allen, Stephen M.
Hitz, William D.
Rafalski, J. Antoni

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Phe Ser Leu Leu Gly Leu Pro Leu Ser Ile Thr Tyr Ser Val Pro Phe
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Ala Thr Gly Val Leu Asn Leu Ala Ile Val Val Pro Gln Ile Val Val
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Ser Leu Gly Ala Gly Pro Trp Asp Ala Leu Tyr Gly Gly Gly Asn Thr
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Pro Ala Phe Val Leu Ala Ser Val Phe Ser Leu Ala Ala Gly Val Leu
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Asp Leu Thr Glu Asn Asp Pro Arg Arg Thr Arg Ile Ala Asn Ala Tyr
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tttttgacag aaaaatgtaa gctctgcccg aatgacatgg cggatagatt ttacaatgga 2280
tgtaatcatg tactatatat aacacgtttt ggtcacagct tgccaagttt catgtatagt 2340
actgctacta aaaaaaaaaa aaaaaaaaaa aaaaa 2375

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<210> 10
 <211> 667
 <212> PRT
 <213> Oryza sativa

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<400> 10
Pro Ala Pro Ser Pro Arg Glu Ala Asp Gln Arg Ile Asn Gln Thr His
 1             5             10             15

Lys His Thr Thr Arg Thr Gln Gln Gln Gly Arg Arg Gln Phe Pro Ile
      20             25             30

Leu Pro Arg Pro Ala Ser Pro Arg Leu Ser Leu Thr Leu Gln Thr Pro
      35             40             45

Thr Ser Asp Ala Ala Ser Leu Ala Pro Cys Pro Arg Arg Ser His Gln
      50             55             60

Thr Leu Pro Asp Leu Arg Pro Ala Met Asp Ser Ala Ala Gly Gly Gly
      65             70             75             80

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Gly	Leu	Thr	Ala	Ile	Arg	Leu	Pro	Tyr	Arg	His	Leu	Arg	Asp	Ala	Glu	85	90	95
Met	Glu	Leu	Val	Ser	Leu	Asn	Gly	Gly	Thr	Pro	Arg	Gly	Gly	Ser	Pro	100	105	110
Lys	Asp	Pro	Asp	Ala	Thr	His	Gln	Gln	Gly	Pro	Pro	Ala	Ala	Arg	Thr	115	120	125
Thr	Thr	Thr	Arg	Lys	Leu	Val	Leu	Ala	Cys	Met	Val	Ala	Ala	Gly	Val	130	135	140
Gln	Phe	Gly	Trp	Ala	Leu	Gln	Leu	Ser	Leu	Leu	Thr	Pro	Tyr	Ile	Gln	145	150	155
Thr	Leu	Gly	Ile	Asp	His	Ala	Met	Ala	Ser	Phe	Ile	Trp	Leu	Cys	Gly	165	170	175
Pro	Ile	Thr	Gly	Phe	Val	Val	Gln	Pro	Cys	Val	Gly	Val	Trp	Ser	Asp	180	185	190
Lys	Cys	Arg	Ser	Lys	Tyr	Gly	Arg	Arg	Arg	Pro	Phe	Ile	Leu	Ala	Gly	195	200	205
Cys	Leu	Met	Ile	Cys	Phe	Ala	Val	Thr	Leu	Ile	Gly	Phe	Ser	Ala	Asp	210	215	220
Leu	Gly	Tyr	Ile	Leu	Gly	Asp	Thr	Thr	Glu	His	Cys	Ser	Thr	Tyr	Lys	225	230	235
Gly	Ser	Arg	Phe	Arg	Ala	Ala	Ile	Ile	Phe	Val	Leu	Gly	Phe	Trp	Met	245	250	255
Leu	Asp	Leu	Ala	Asn	Asn	Thr	Val	Gln	Gly	Pro	Ala	Arg	Ala	Leu	Leu	260	265	270
Ala	Asp	Leu	Ser	Gly	Pro	Asp	Gln	Cys	Asn	Ser	Ala	Asn	Ala	Ile	Phe	275	280	285
Cys	Thr	Trp	Met	Ala	Val	Gly	Asn	Val	Leu	Gly	Phe	Ser	Ser	Gly	Ala	290	295	300
Ser	Gly	Asn	Trp	His	Lys	Trp	Phe	Pro	Phe	Leu	Met	Thr	Arg	Ala	Cys	305	310	315
Cys	Glu	Ala	Cys	Ser	Asn	Leu	Lys	Ala	Ala	Phe	Leu	Val	Ala	Val	Val	325	330	335
Phe	Leu	Leu	Phe	Cys	Met	Ser	Val	Thr	Leu	Tyr	Phe	Ala	Glu	Glu	Ile	340	345	350
Pro	Leu	Glu	Pro	Thr	Asp	Ala	Gln	Arg	Leu	Ser	Asp	Ser	Ala	Pro	Leu	355	360	365
Leu	Asn	Gly	Ser	Arg	Asp	Asp	Asn	Asn	Ala	Ser	Asn	Glu	Pro	Arg	Asn	370	375	380
Gly	Ala	Leu	Pro	Asn	Gly	His	Thr	Asp	Gly	Ser	Asn	Val	Pro	Ala	Asn	385	390	395

Ser Asn Ala Glu Asp Ser Asn Ser Asn Arg Glu Asn Val Glu Val Phe
 405 410 415
 Asn Asp Gly Pro Gly Ala Val Leu Val Asn Ile Leu Thr Ser Met Arg
 420 425 430
 His Leu Pro Pro Gly Met Tyr Ser Val Leu Leu Val Met Ala Leu Thr
 435 440 445
 Trp Leu Ser Trp Phe Pro Phe Phe Leu Phe Asp Thr Asp Trp Met Gly
 450 455 460
 Arg Glu Val Tyr His Gly Asp Pro Asn Gly Asn Leu Ser Glu Arg Lys
 465 470 475 480
 Ala Tyr Asp Asn Gly Val Arg Glu Gly Ala Phe Gly Leu Leu Leu Asn
 485 490 495
 Ser Val Val Leu Gly Ile Gly Ser Phe Leu Val Asp Pro Leu Cys Arg
 500 505 510
 Leu Met Gly Ala Arg Leu Val Trp Ala Ile Ser Asn Phe Thr Val Phe
 515 520 525
 Ile Cys Met Leu Ala Thr Ala Ile Leu Ser Trp Ile Ser Phe Asp Leu
 530 535 540
 Tyr Ser Ser Lys Leu His His Ile Ile Gly Ala Asn Lys Thr Val Lys
 545 550 555 560
 Asn Ser Ala Leu Ile Val Phe Ser Leu Leu Gly Leu Pro Leu Ser Ile
 565 570 575
 Thr Tyr Ser Val Pro Phe Ser Val Thr Ala Glu Leu Thr Ala Gly Thr
 580 585 590
 Gly Gly Gly Gln Gly Leu Ala Thr Gly Val Leu Asn Leu Ala Ile Val
 595 600 605
 Val Pro Gln Ile Val Val Ser Leu Gly Ala Gly Pro Trp Asp Ala Leu
 610 615 620
 Phe Gly Gly Gly Asn Val Pro Ala Phe Ala Leu Ala Ser Val Phe Ser
 625 630 635 640
 Leu Gly Ala Gly Val Leu Ala Val Leu Lys Leu Pro Lys Leu Pro Asn
 645 650 655
 Ser Tyr Arg Ser Ala Gly Phe His Gly Phe Gly
 660 665

<210> 11
 <211> 1885
 <212> DNA
 <213> Glycine max

<400> 11
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 ttacgcaaaa tgattttggt gtcgtcaatg gcggccggta tccaattcgg gtgggcccta 180
 cagctctccc ttctcacccc atatgttcaa accctaggcg tcccgcacgc ttgggcctca 240

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tttatttggc tatgtggccc gatattctggg ctgctggtgc agccattgt gggctacagc 300
agcgaccgat gccaatcccg ttccggtcgt cgccgtccct ttatcctagc cgggtctttg 360
gccgtcgcca ttgctgtgtt cctaattggt tacgcggccg atataggaca cgcggcaggc 420
gacaacctga cccaaaagac tcggccacgt gcagtggcga tcttcgtgat cgggttttgg 480
atcctcgacg tggctaacaa catgctccag ggtccatgcc gtgcctttct gggcgacctc 540
gctgccgggg atgagaaaaa gacaaaggca gccaatgcct tcttctcttt cttcatggcc 600
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ttcacggaaa ccgaggcatg caacgtcttc tgcgcaaacc tcaagagttg cttcttcttc 720
gctatcgctc tcctggtggt cctcaccacc ttggtgctga ttaccgtgaa agaaactccc 780
tacacgccaa aggcagagaa ggaaaccgaa gatgcagaga agacacactt ctcgtgcttc 840
tgccggagaa tttgtcttgc attcaagggg ctgaagaggc caatgtggat gttgatgttg 900
gtgaccgccg tgaactgat agcgtggttc ccttacttct tggtcgacac cgattggatg 960
ggtcgtgagg tgcacggtgg tgacgtgggg cagaaggcgt acgattcggg agttcatgca 1020
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ccgttggggc gtgtggttgg gggaatcaag tggttgtggg gaatcgttaa catcttgttg 1140
gctatatgct tgggaatgac cgttctcatc acaaagatcg ctgagcatga acgtcttctt 1200
aaccctgctt tggttgggaa cccttccctc ggtatcaaag ttggttccat ggttttcttc 1260
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gtcgttccac agatgatagt atcaaccata agtggacctt gggatgcctt gttcggcggg 1440
ggaaacttgc ctgattcgt gttgggtgcg gtggccgcg tcgtgagtgc aatattagca 1500
gttcttctgc tgccaactcc aaagaaagct gatgaggtca gggcttctag cctcaacatg 1560
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tatttcacac attaaaaaaa tatcataata aatatatata ttatcatatt ataaaagaaa 1860
tatttgaaaa aaaaaaaaaa aaaaaa 1885

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<210> 12
 <211> 494
 <212> PRT
 <213> Glycine max

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<400> 12
Met Glu Glu Pro Gln Pro Gly Pro Ser Pro Leu Arg Lys Met Ile Leu
  1          5          10          15

Val Ser Ser Met Ala Ala Gly Ile Gln Phe Gly Trp Ala Leu Gln Leu
      20          25          30

Ser Leu Leu Thr Pro Tyr Val Gln Thr Leu Gly Val Pro His Ala Trp
  35          40          45

Ala Ser Phe Ile Trp Leu Cys Gly Pro Ile Ser Gly Leu Leu Val Gln
  50          55          60

Pro Ile Val Gly Tyr Ser Ser Asp Arg Cys Gln Ser Arg Phe Gly Arg
  65          70          75          80

Arg Arg Pro Phe Ile Leu Ala Gly Ser Leu Ala Val Ala Ile Ala Val
      85          90          95

Phe Leu Ile Gly Tyr Ala Ala Asp Ile Gly His Ala Ala Gly Asp Asn
 100          105          110

Leu Thr Gln Lys Thr Arg Pro Arg Ala Val Ala Ile Phe Val Ile Gly
 115          120          125

Phe Trp Ile Leu Asp Val Ala Asn Asn Met Leu Gln Gly Pro Cys Arg
 130          135          140

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Ala Phe Leu Gly Asp Leu Ala Ala Gly Asp Glu Lys Lys Thr Lys Ala
 145 150 155 160
 Ala Asn Ala Phe Phe Ser Phe Phe Met Ala Val Gly Asn Ile Leu Gly
 165 170 175
 Tyr Ala Ala Gly Ser Tyr Asp Gly Leu His Arg Leu Phe Pro Phe Thr
 180 185 190
 Glu Thr Glu Ala Cys Asn Val Phe Cys Ala Asn Leu Lys Ser Cys Phe
 195 200 205
 Phe Phe Ala Ile Val Leu Leu Val Val Leu Thr Thr Leu Val Leu Ile
 210 215 220
 Thr Val Lys Glu Thr Pro Tyr Thr Pro Lys Ala Glu Lys Glu Thr Glu
 225 230 235 240
 Asp Ala Glu Lys Thr His Phe Ser Cys Phe Cys Gly Glu Leu Cys Leu
 245 250 255
 Ala Phe Lys Gly Leu Lys Arg Pro Met Trp Met Leu Met Leu Val Thr
 260 265 270
 Ala Val Asn Trp Ile Ala Trp Phe Pro Tyr Phe Leu Phe Asp Thr Asp
 275 280 285
 Trp Met Gly Arg Glu Val Tyr Gly Gly Asp Val Gly Gln Lys Ala Tyr
 290 295 300
 Asp Ser Gly Val His Ala Gly Ser Leu Gly Leu Met Leu Asn Ala Val
 305 310 315 320
 Val Leu Ala Val Met Ser Leu Ala Ile Glu Pro Leu Gly Arg Val Val
 325 330 335
 Gly Gly Ile Lys Trp Leu Trp Gly Ile Val Asn Ile Leu Leu Ala Ile
 340 345 350
 Cys Leu Gly Met Thr Val Leu Ile Thr Lys Ile Ala Glu His Glu Arg
 355 360 365
 Leu Leu Asn Pro Ala Leu Val Gly Asn Pro Ser Leu Gly Ile Lys Val
 370 375 380
 Gly Ser Met Val Phe Phe Ser Val Leu Gly Ile Pro Leu Ala Ile Thr
 385 390 395 400
 Phe Ser Val Pro Phe Ala Leu Ala Ser Ile Tyr Ser Ser Thr Ser Gly
 405 410 415
 Ala Gly Gln Gly Leu Ser Leu Gly Val Leu Asn Ile Ala Ile Val Val
 420 425 430
 Pro Gln Met Ile Val Ser Thr Ile Ser Gly Pro Trp Asp Ala Leu Phe
 435 440 445
 Gly Gly Gly Asn Leu Pro Ala Phe Val Leu Gly Ala Val Ala Ala Val
 450 455 460

S
 C

Val Ser Ala Ile Leu Ala Val Leu Leu Leu Pro Thr Pro Lys Lys Ala
 465 470 475 480

Asp Glu Val Arg Ala Ser Ser Leu Asn Met Gly Ser Leu His
 485 490

<210> 13
 <211> 1041
 <212> DNA
 <213> Glycine max

<220>
 <221> unsure
 <222> (1007)

<400> 13
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 cggaggccag tccccctcgg aagatcatgg tgggtggcctc catcgccgcc ggggtgcaat 180
 tcgggtgggc cctacagctc tctctactta ccccttacgt ccaactgctg gggattcccc 240
 acacttgggc cgccttcacg tggctctgcg gcccaatctc cggcatgctc gtccagccca 300
 tcgtgggata ccacagcgac cgtgcacact cccgcttcgg ccgccgccgc cccttcacgc 360
 ccgccggctc cctcgccgct gccatcgccg tcttcttat cggctacgcc gccgacctcg 420
 gccacatggt cggcgactcc ctagccaaaa aaaccgcccc gcgccatcgc atcttcgttg 480
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 tgggcgacct ctgcgccgga gaacaacgga aaacgcgaaa cgcaaacgcc ttcttctcct 600
 tcttcattggc cgtcggaaac gtccctgggt acgccgcggg ctcttacagc ggcctccaca 660
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 gtttcttctc ctccatcgcg cttcttctca ctctctccac aatcgcttg acctacgtga 780
 aggagaaaac ggtgtcgta gagaaaacgg tgaggagtgc ggtggaggag gatgggtccc 840
 acgggggcat gccgtgcttc gggcaattat tcggtgcgtt ccgcgaactg aagcgtccca 900
 tgtggatcct tctgttggtg acgtgtctga actgggattg cctggttcct tttttgctat 960
 tcgacaccga ctgggattgg ggcgtgaggt gtacggaggg aaaattnggg gaaaggaaaag 1020
 ggtacgataa ggggttcctg t 1041

<210> 14
 <211> 322
 <212> PRT
 <213> Glycine max

<220>
 <221> UNSURE
 <222> (311)

<220>
 <221> UNSURE
 <222> (321)

<400> 14
 Met Glu Pro Leu Ser Ser Thr Lys His Asn Asn Asn Leu Ser Lys Pro
 1 5 10 15

Ser Ser Leu His Thr Glu Ala Pro Pro Pro Glu Ala Ser Pro Leu Arg
 20 25 30

Lys Ile Met Val Val Ala Ser Ile Ala Ala Gly Val Gln Phe Gly Trp
 35 40 45

Ala Leu Gln Leu Ser Leu Leu Thr Pro Tyr Val Gln Leu Leu Gly Ile
 50 55 60

Pro His Thr Trp Ala Ala Phe Ile Trp Leu Cys Gly Pro Ile Ser Gly
 65 70 75 80
 Met Leu Val Gln Pro Ile Val Gly Tyr His Ser Asp Arg Cys Thr Ser
 85 90 95
 Arg Phe Gly Arg Arg Arg Pro Phe Ile Ala Ala Gly Ser Leu Ala Val
 100 105 110
 Ala Ile Ala Val Phe Leu Ile Gly Tyr Ala Ala Asp Leu Gly His Met
 115 120 125
 Phe Gly Asp Ser Leu Ala Lys Lys Thr Ala Pro Arg His Arg Ile Phe
 130 135 140
 Val Val Gly Phe Trp Ile Leu Asp Val Ala Asn Asn Met Leu Gln Gly
 145 150 155 160
 Pro Cys Arg Ala Leu Leu Gly Asp Leu Cys Ala Gly Glu Gln Arg Lys
 165 170 175
 Thr Arg Asn Ala Asn Ala Phe Phe Ser Phe Phe Met Ala Val Gly Asn
 180 185 190
 Val Leu Gly Tyr Ala Ala Gly Ser Tyr Ser Gly Leu His Asn Val Phe
 195 200 205
 Pro Phe Thr Lys Thr Lys Ala Cys Asp Val Tyr Cys Ala Asn Leu Lys
 210 215 220
 Ser Cys Phe Phe Leu Ser Ile Ala Leu Leu Leu Thr Leu Ser Thr Ile
 225 230 235 240
 Ala Leu Thr Tyr Val Lys Glu Lys Thr Val Ser Ser Glu Lys Thr Val
 245 250 255
 Arg Ser Ser Val Glu Glu Asp Gly Ser His Gly Gly Met Pro Cys Phe
 260 265 270
 Gly Gln Leu Phe Gly Ala Phe Arg Glu Leu Lys Arg Pro Met Trp Ile
 275 280 285
 Leu Leu Leu Val Thr Cys Leu Asn Trp Asp Cys Leu Val Pro Phe Leu
 290 295 300
 Leu Phe Asp Thr Asp Trp Xaa Gly Arg Glu Val Tyr Gly Gly Lys Ile
 305 310 315 320

Xaa Gly

<210> 15

<211> 578

<212> DNA

<213> *Vernonia mespilifolia*

<400> 15

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 gtttggttg ccatgacggt ggtggtgacc aaaatggcag actctgaacg acagtttaag 120
 acgttgcccc acggtagcaa aaccgcgttg ccaccaggcg gcgacattaa agccggtgct 180
 ttgtcaattt ttgccgtcct cgtgccccca ctagctgtga ctttcagtgt tccatgtgct 240

ctgcatcaa tattttctaa cagttcagga gctggacaag gtctatcact tgggtgtttg 300
 aatctagcaa tcgtcatacc acagatgttc gtatcagtac taagtggacc atgggacgca 360
 ctgttcggcg gtggaaactt accagcattt gtggttggag caatttcggc tgcagtaagt 420
 gggatattat cgttcaccat gcttccttcg ccacccccag atgtcgtact ttcaaagggt 480
 tccggagggtg ggatgcatta gagagtaaat aactgccact caacacgtcc cgattgtgtc 540
 agattgggac atttaggacc aaaaaaaaaa aaaaaaaaaa 578

<210> 16

<211> 166

<212> PRT

<213> *Vernonia mespilifolia*

<400> 16

Ala Arg Gly Trp Leu Gly Gly Val Lys Arg Leu Trp Gly Gly Ile Asn
 1 5 10 15

Phe Leu Leu Ala Val Cys Leu Ala Met Thr Val Val Val Thr Lys Met
 20 25 30

Ala Asp Ser Glu Arg Gln Phe Lys Thr Leu Pro Asp Gly Ser Lys Thr
 35 40 45

Ala Leu Pro Pro Gly Gly Asp Ile Lys Ala Gly Ala Leu Ser Ile Phe
 50 55 60

Ala Val Leu Gly Ala Pro Leu Ala Val Thr Phe Ser Val Pro Cys Ala
 65 70 75 80

Leu Ala Ser Ile Phe Ser Asn Ser Ser Gly Ala Gly Gln Gly Leu Ser
 85 90 95

Leu Gly Val Leu Asn Leu Ala Ile Val Ile Pro Gln Met Phe Val Ser
 100 105 110

Val Leu Ser Gly Pro Trp Asp Ala Leu Phe Gly Gly Gly Asn Leu Pro
 115 120 125

Ala Phe Val Val Gly Ala Ile Ser Ala Ala Val Ser Gly Ile Leu Ser
 130 135 140

Phe Thr Met Leu Pro Ser Pro Pro Pro Asp Val Val Leu Ser Lys Val
 145 150 155 160

Ser Gly Gly Gly Met His
 165

<210> 17

<211> 1062

<212> DNA

<213> *Triticum aestivum*

<400> 17

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 tcctgtacga caccgactgg atgggtcgtg agatctacca cgggtgacccc aagggaaccc 120
 ccgacgaggc caacgcgttc caggcagggtg tcagggcccg ggcgttcggc ctgctactca 180
 actcgggtcgt cctgggggttc agctcgttcc tgatcgagcc gctgtgcaag aggctaggcc 240
 cgcgggtggt gtgggtgtca agcaacttcc tcgtctgcat ctccatggcc gccatttgca 300
 tcataagctg gtgggccact caggacctgc atgggtacat ccagcacgcc atcaccgcca 360
 gcaaggagat caagatcgtc tccctcgccc tcttcgcctt cctcggaatc cctctcgcca 420
 ttctgtacag tgtccctttc gcggtgacgg cgcagctggc ggcgaacaga ggcggtggcc 480
 aagggtcgtg cacgggctgt ctgaacatcg ccatcgtgat accccagggtg atcatcgccg 540

tggggg	cgccg	gagctgttcg	gcaagggcaa	catcccggcg	ttcggcggtgg	600
cgctccgcctt	cgcgctcatc	ggcggcatcg	tcggcatatt	cctgctgccc	aagatctcca	660
ggcgccagtt	ccgggcccgtc	agcggcggcg	gtcactgacc	gcgcgcgcgcg	ccggtcggcc	720
tgagcatggc	gaaggccgat	cgcgccggcc	cgaagggtccc	agcccagctc	ggcatttacc	780
aaattttcgc	atagcgtaaa	ctaggggggt	ctcgccctaag	gactccgtag	agcagaataa	840
gaattgtgag	gaacctgtat	gtgttgtgtc	tgtatgtgcg	tgtaagtcag	tgcgtgtagc	900
ggaaaatgga	cagaggaatg	cgggcatcca	tcgccggctg	gggtgtcgtc	tttgggttgt	960
gacttgtgtg	tagcaaacca	aggtgatcaa	gtgaggggaa	aagaatggat	gatgaacttt	1020
cagcgacaaa	aaaaaaaaaa	aaaaaaaaaa	aaaaaaaaaa	aa		1062

<210> 18
 <211> 232
 <212> PRT
 <213> Triticum aestivum

<400> 18
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 Trp Phe Pro Phe Ile Leu Tyr Asp Thr Asp Trp Met Gly Arg Glu Ile
 20 25 30
 Tyr His Gly Asp Pro Lys Gly Thr Pro Asp Glu Ala Asn Ala Phe Gln
 35 40 45
 Ala Gly Val Arg Ala Gly Ala Phe Gly Leu Leu Leu Asn Ser Val Val
 50 55 60
 Leu Gly Phe Ser Ser Phe Leu Ile Glu Pro Leu Cys Lys Arg Leu Gly
 65 70 75 80
 Pro Arg Val Val Trp Val Ser Ser Asn Phe Leu Val Cys Ile Ser Met
 85 90 95
 Ala Ala Ile Cys Ile Ile Ser Trp Trp Ala Thr Gln Asp Leu His Gly
 100 105 110
 Tyr Ile Gln His Ala Ile Thr Ala Ser Lys Glu Ile Lys Ile Val Ser
 115 120 125
 Leu Ala Leu Phe Ala Phe Leu Gly Ile Pro Leu Ala Ile Leu Tyr Ser
 130 135 140
 Val Pro Phe Ala Val Thr Ala Gln Leu Ala Ala Asn Arg Gly Gly Gly
 145 150 155 160
 Gln Gly Leu Cys Thr Gly Val Leu Asn Ile Ala Ile Val Ile Pro Gln
 165 170 175
 Val Ile Ile Ala Val Gly Ala Gly Pro Trp Asp Glu Leu Phe Gly Lys
 180 185 190
 Gly Asn Ile Pro Ala Phe Gly Val Ala Ser Ala Phe Ala Leu Ile Gly
 195 200 205
 Gly Ile Val Gly Ile Phe Leu Leu Pro Lys Ile Ser Arg Arg Gln Phe
 210 215 220
 Arg Ala Val Ser Gly Gly Gly His
 225 230

<210> 19
 <211> 2083
 <212> DNA
 <213> *Triticum aestivum*

<220>
 <221> UNSURE
 <222> (1093)

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 ccgtcctgcc cctagatcct tggccgggca gggatacgcc gtagaattga taggcgaacg 180
 gacgaggtgg tgatcgccag ggcggcctct ctgccatggc gcgcggcgga ggcaacggcg 240
 aggtggagct ctcggtcggg gtcggcggcg gaggcggcgg cgcgcggcg gcggggggagc 300
 aaccgcgcgt ggacatcagc ctcggcagac tcatcctcgc cggcatggtc gccggcggcg 360
 tgcagtaagg atgggcgctc cagctctccc tgctcaccac ctacgtccag actctgggac 420
 tttcgcagtc tctgacttca ttcattgtgg tctgcggccc tattgctgga ttagtggttc 480
 aaccatgcgt tgggctctac agtgacaagt gcacatctag atggggaaga cgcagaccgt 540
 ttattctgac aggatgcac ctcatctgca ttgctgttgg ggtcgtcggc ttctcggctg 600
 acattggagc tgggtctggg gacagcaagg aagagtgcag tctctatcat gggcctcgtt 660
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 caaattcaat cttctgttct tggatggcgc taggaaatat ccttggtatc tctctgtgtt 840
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<210> 20
 <211> 522
 <212> PRT
 <213> *Triticum aestivum*

<400> 20
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 Gly Gly Gly Gly Gly Gly Ala Ala Gly Gly Gly Glu Gln Pro Ala Val
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 Asp Ile Ser Leu Gly Arg Leu Ile Leu Ala Gly Met Val Ala Gly Gly
 35 40 45

Val 50	Gln	Tyr	Gly	Trp	Ala	Leu 55	Gln	Leu	Ser	Leu	Leu 60	Thr	Pro	Tyr	Val
Gln 65	Thr	Leu	Gly	Leu	Ser 70	His	Ala	Leu	Thr	Ser 75	Phe	Met	Trp	Leu	Cys 80
Gly	Pro	Ile	Ala	Gly 85	Leu	Val	Val	Gln	Pro 90	Cys	Val	Gly	Leu	Tyr 95	Ser
Asp	Lys	Cys	Thr 100	Ser	Arg	Trp	Gly	Arg 105	Arg	Arg	Pro	Phe	Ile 110	Leu	Thr
Gly	Cys	Ile 115	Leu	Ile	Cys	Ile	Ala 120	Val	Val	Val	Val	Gly 125	Phe	Ser	Ala
Asp	Ile 130	Gly	Ala	Gly	Leu	Gly 135	Asp	Ser	Lys	Glu	Glu 140	Cys	Ser	Leu	Tyr
His 145	Gly	Pro	Arg	Trp	His 150	Ala	Ala	Ile	Val	Tyr 155	Val	Leu	Gly	Phe	Trp 160
Leu	Leu	Asp	Phe	Ser 165	Asn	Asn	Thr	Val	Gln 170	Gly	Pro	Ala	Arg	Ala 175	Leu
Met	Ala	Asp	Leu 180	Ser	Ala	Gln	His	Gly 185	Pro	Ser	Ala	Ala	Asn 190	Ser	Ile
Phe	Cys	Ser 195	Trp	Met	Ala	Leu	Gly 200	Asn	Ile	Leu	Gly	Tyr 205	Ser	Ser	Gly
Ser	Thr 210	Asn	Asn	Trp	His	Lys 215	Trp	Phe	Pro	Phe	Leu 220	Arg	Thr	Arg	Ala
Cys 225	Cys	Glu	Ala	Cys	Ala 230	Asn	Leu	Lys	Gly	Ala 235	Phe	Leu	Val	Ala	Val 240
Leu	Val	Leu	Ala	Phe 245	Cys	Leu	Val	Ile	Thr 250	Val	Ile	Phe	Ala	Lys 255	Glu
Ile	Pro	Tyr	Lys 260	Ala	Ile	Ala	Pro	Leu 265	Pro	Thr	Lys	Gly	Asn 270	Gly	Gln
Val	Glu	Val 275	Glu	Pro	Thr	Gly	Pro 280	Leu	Ala	Val	Phe	Lys 285	Gly	Phe	Lys
Asn	Leu 290	Pro	Pro	Met	Pro	Ser 295	Val	Leu	Leu	Val	Thr 300	Gly	Leu	Thr	Trp
Leu 305	Ser	Trp	Phe	Pro	Phe 310	Ile	Leu	Tyr	Asp	Thr 315	Asp	Trp	Met	Gly	Arg 320
Glu	Ile	Tyr	His	Gly 325	Asp	Pro	Lys	Gly	Thr 330	Pro	Asp	Glu	Ala	Asn 335	Ala
Phe	Gln	Ala	Gly 340	Val	Arg	Ala	Gly	Ala 345	Phe	Gly	Leu	Leu	Leu 350	Asn	Ser
Val	Val	Leu 355	Gly	Phe	Ser	Ser	Phe 360	Leu	Ile	Glu	Pro	Leu 365	Cys	Lys	Arg

Leu Gly Pro Arg Val Val Trp Val Ser Ser Asn Phe Leu Val Cys Leu
 370 375 380
 Ser Met Ala Ala Ile Cys Ile Ile Ser Trp Trp Ala Thr Gln Asp Leu
 385 390 395 400
 His Gly Tyr Ile Gln His Ala Ile Thr Ala Ser Lys Glu Ile Lys Ile
 405 410 415
 Val Ser Leu Ala Leu Phe Ala Phe Leu Gly Ile Pro Leu Ala Ile Leu
 420 425 430
 Tyr Ser Val Pro Phe Ala Val Thr Ala Gln Leu Ala Ala Lys Arg Gly
 435 440 445
 Gly Gly Gln Gly Leu Cys Thr Gly Val Leu Asn Ile Ala Ile Val Ile
 450 455 460
 Pro Gln Val Ile Ile Ala Val Gly Ala Gly Pro Trp Asp Glu Leu Phe
 465 470 475 480
 Gly Lys Gly Asn Ile Pro Ala Phe Gly Met Ala Ser Ala Phe Ala Leu
 485 490 495
 Ile Gly Gly Ile Val Gly Ile Phe Leu Leu Pro Lys Ile Ser Arg Arg
 500 505 510
 Gln Phe Arg Ala Val Ser Gly Gly Gly His
 515 520

<210> 21
 <211> 2160
 <212> DNA
 <213> Triticum aestivum

<400> 21
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 ccggcggttg tccgacgcgc cgtagagttg ataggcgaac gaacggggcg gtgatcgtcc 180
 gggcgccccc cctgcgacga tggcgcgcg cggcggcaac ggcgaggtgg agctctcggt 240
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 ccagctctcc ctgctcacc cctacgtcca gactctggga ctttcgcatg ctctgacttc 420
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 tgttcttgga ttctggctcc ttgacttctc caacaacaca gtgcaaggac cagcgcgtgc 720
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 cagaggaatg cgggcatcca tcgccggctg ggggtgtcgtc tttgggttgt gacttgtgtg 2040
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<210> 22
 <211> 522
 <212> PRT
 <213> *Triticum aestivum*

<400> 22
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 20 25 30
 Ile Ser Leu Gly Arg Leu Ile Leu Ala Gly Met Val Ala Gly Gly Val
 35 40 45
 Gln Tyr Gly Trp Ala Leu Gln Leu Ser Leu Leu Thr Pro Tyr Val Gln
 50 55 60
 Thr Leu Gly Leu Ser His Ala Leu Thr Ser Phe Met Trp Leu Cys Gly
 65 70 75 80
 Pro Ile Ala Gly Leu Val Val Gln Pro Cys Val Gly Leu Tyr Ser Asp
 85 90 95
 Lys Cys Thr Ser Arg Trp Gly Arg Arg Arg Pro Phe Ile Leu Thr Gly
 100 105 110
 Cys Ile Leu Ile Cys Ile Ala Val Val Val Val Gly Phe Ser Ala Asp
 115 120 125
 Ile Gly Ala Ala Leu Gly Asp Ser Lys Glu Glu Cys Ser Leu Tyr His
 130 135 140
 Gly Pro Arg Trp His Ala Ala Ile Val Tyr Val Leu Gly Phe Trp Leu
 145 150 155 160
 Leu Asp Phe Ser Asn Asn Thr Val Gln Gly Pro Ala Arg Ala Leu Met
 165 170 175
 Ala Asp Leu Ser Ala Gln His Gly Pro Ser Ala Ala Asn Ser Ile Phe
 180 185 190
 Cys Ser Trp Met Ala Leu Gly Asn Ile Leu Gly Tyr Ser Ser Gly Ser
 195 200 205
 Thr Asn Asn Trp His Lys Trp Phe Pro Phe Leu Arg Thr Arg Ala Cys
 210 215 220
 Cys Glu Ala Cys Ala Asn Leu Lys Gly Ala Phe Leu Val Ala Val Leu

225		230		235		240									
Phe	Leu	Ala	Phe	Cys	Leu	Val	Ile	Thr	Val	Ile	Phe	Ala	Lys	Glu	Ile
				245					250					255	
Pro	Tyr	Lys	Ala	Ile	Ala	Pro	Leu	Pro	Thr	Lys	Ala	Asn	Gly	Gln	Val
			260					265					270		
Glu	Val	Glu	Pro	Thr	Gly	Pro	Leu	Ala	Val	Phe	Lys	Gly	Phe	Lys	Asn
		275					280					285			
Leu	Pro	Pro	Gly	Met	Pro	Ser	Val	Leu	Leu	Val	Thr	Gly	Leu	Thr	Trp
	290					295					300				
Leu	Ser	Trp	Phe	Pro	Phe	Ile	Leu	Tyr	Asp	Thr	Asp	Trp	Met	Gly	Arg
305					310					315					320
Glu	Ile	Tyr	His	Gly	Asp	Pro	Lys	Gly	Thr	Pro	Asp	Glu	Ala	Asn	Ala
				325					330					335	
Phe	Gln	Ala	Gly	Val	Arg	Ala	Gly	Ala	Phe	Gly	Leu	Leu	Leu	Asn	Ser
			340					345						350	
Val	Val	Leu	Gly	Phe	Ser	Ser	Phe	Leu	Ile	Glu	Pro	Leu	Cys	Lys	Arg
		355					360					365			
Leu	Gly	Pro	Arg	Val	Val	Trp	Val	Ser	Ser	Asn	Phe	Leu	Val	Cys	Leu
	370					375					380				
Ser	Met	Ala	Ala	Ile	Cys	Ile	Ile	Ser	Trp	Trp	Ala	Thr	Gln	Asp	Leu
385					390					395					400
His	Gly	Tyr	Ile	Gln	His	Ala	Ile	Thr	Ala	Ser	Lys	Glu	Ile	Lys	Ile
				405					410					415	
Val	Ser	Leu	Ala	Leu	Phe	Ala	Phe	Leu	Gly	Ile	Pro	Leu	Ala	Ile	Leu
			420					425					430		
Tyr	Ser	Val	Thr	Phe	Ala	Val	Thr	Ala	Gln	Leu	Ala	Ala	Asn	Arg	Cys
		435					440					445			
Gly	Gly	Gln	Trp	Leu	Cys	Thr	Gly	Val	Leu	Asn	Ile	Ala	Ile	Ala	Ile
	450					455					460				
Pro	Gln	Val	Ile	Ile	Ala	Leu	Gly	Ala	Gly	Pro	Trp	Asp	Glu	Leu	Phe
465					470					475					480
Gly	Lys	Gly	Asn	Ile	Pro	Ala	Phe	Gly	Val	Ala	Ser	Ala	Phe	Ala	Leu
				485					490					495	
Ile	Gly	Gly	Ile	Val	Gly	Ile	Phe	Leu	Leu	Pro	Lys	Ile	Ser	Arg	Leu
			500					505					510		
Gln	Phe	Arg	Ala	Val	Ser	Gly	Gly	Gly	His						
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<210> 23
 <211> 2030
 <212> DNA
 <213> Triticum aestivum

<400> 23

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agaccatgcc atggcgctcc tcatTTggct ttgcggggcc attactggtt ttgtggttca 240
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ctctttcctt atcgatccat tatgccgat gattgggtgca agattgggtt gggcaatcag 1260
caacttcata gtgtttgcct gcatgttggc tacaacaata ctaagttgga tctcctatga 1320
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gaatcttgcc atcgtcgtc ctcagatagt agtgctactc ggagcaggcc catgggacaa 1560
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tcttgctaga tacacagtta ataagactac agatcagata gactaggata aagagatagt 1860
ttttaggcct gtgtgcatac aagtgtcgat gagaagttgt aaaacatgta cactgttttt 1920
ttgtactgta tatgtagtga aatttcatag atggccggat gtgttctggt ccgataaaaa 1980
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<210> 24

<211> 563

<212> PRT

<213> Triticum aestivum

<400> 24

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      20             25             30

Ala Cys Met Val Ala Ala Gly Val Gln Phe Gly Trp Ala Leu Gln Leu
      35             40             45

Ser Leu Leu Thr Pro Tyr Ile Gln Thr Leu Gly Ile Asp His Ala Met
      50             55             60

Ala Ser Phe Ile Trp Leu Cys Gly Pro Ile Thr Gly Phe Val Val Gln
      65             70             75             80

Pro Cys Val Gly Val Trp Ser Asp Lys Cys Arg Ser Lys Tyr Gly Arg
      85             90             95

Arg Arg Pro Phe Ile Leu Ala Gly Cys Val Leu Ile Cys Ala Ala Val
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			100					105					110				
Thr	Leu	Val	Gly	Phe	Ser	Ala	Asp	Leu	Gly	Tyr	Met	Leu	Gly	Asp	Thr		
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Thr	Glu	His	Cys	Ser	Thr	Tyr	Lys	Gly	Leu	Arg	Tyr	Arg	Ala	Ala	Phe		
	130					135					140						
Ile	Phe	Ile	Phe	Gly	Phe	Trp	Met	Leu	Asp	Leu	Ala	Asn	Asn	Thr	Val		
145					150				155						160		
Gln	Gly	Pro	Ala	Arg	Ala	Leu	Leu	Ala	Asp	Leu	Ser	Gly	Pro	Asp	Gln		
				165					170					175			
Cys	Asn	Ser	Ala	Asn	Ala	Ile	Phe	Cys	Ser	Trp	Met	Ala	Val	Gly	Asn		
			180					185					190				
Val	Leu	Gly	Phe	Ser	Ala	Gly	Ala	Ser	Gly	Asn	Trp	His	Lys	Trp	Phe		
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Pro	Phe	Leu	Met	Thr	Arg	Ala	Cys	Cys	Glu	Ala	Cys	Gly	Asn	Leu	Lys		
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Ala	Ala	Phe	Leu	Ile	Ala	Val	Val	Phe	Leu	Leu	Phe	Cys	Met	Ala	Val		
225					230					235					240		
Thr	Leu	Tyr	Phe	Ala	Glu	Glu	Ile	Pro	Leu	Glu	Pro	Lys	Asp	Ala	Gln		
				245						250				255			
Gln	Leu	Ser	Asp	Ser	Ala	Pro	Leu	Leu	Asn	Gly	Ser	Arg	Asp	Asp	His		
			260					265					270				
Asp	Ala	Ser	Ser	Glu	Gln	Thr	Asn	Gly	Gly	Leu	Ser	Asn	Gly	His	Ala		
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Asp	Ala	Asn	His	Val	Ser	Ala	Asn	Ser	Ser	Ala	Asp	Ala	Gly	Ser	Asn		
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Ser	Asn	Lys	Asp	Asp	Val	Glu	Ala	Phe	Asn	Asp	Gly	Pro	Gly	Ala	Val		
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Leu	Val	Lys	Ile	Leu	Thr	Ser	Met	Arg	His	Leu	Pro	Pro	Gly	Met	Tyr		
				325					330					335			
Ser	Val	Leu	Leu	Val	Met	Ala	Leu	Thr	Trp	Leu	Ser	Trp	Phe	Pro	Phe		
			340					345					350				
Phe	Leu	Phe	Asp	Thr	Asp	Trp	Met	Gly	Arg	Glu	Val	Tyr	His	Gly	Asp		
		355					360					365					
Pro	Lys	Gly	Asn	Ala	Ser	Glu	Arg	Lys	Ala	Tyr	Asp	Asp	Gly	Val	Arg		
	370					375					380						
Glu	Gly	Ala	Phe	Gly	Leu	Leu	Leu	Asn	Ser	Val	Val	Leu	Gly	Ile	Gly		
385					390					395					400		
Ser	Phe	Leu	Ile	Asp	Pro	Leu	Cys	Arg	Met	Ile	Gly	Ala	Arg	Leu	Val		
				405					410					415			
Trp	Ala	Ile	Ser	Asn	Phe	Ile	Val	Phe	Ala	Cys	Met	Leu	Ala	Thr	Thr		
			420					425					430				

Ile Leu Ser Trp Ile Ser Tyr Asp Leu Tyr Ser Ser Lys Leu Gln His
 435 440 445
 Ile Val Gly Ala Asp Lys Thr Val Lys Thr Ser Ala Leu Ile Leu Phe
 450 455 460
 Ser Leu Leu Gly Leu Pro Leu Ser Ile Thr Tyr Ser Val Pro Phe Ser
 465 470 475 480
 Val Thr Ala Glu Leu Thr Ala Gly Thr Gly Gly Gly Gln Gly Leu Ala
 485 490 495
 Thr Gly Val Leu Asn Leu Ala Ile Val Ala Pro Gln Ile Val Val Ser
 500 505 510
 Leu Gly Ala Gly Pro Trp Asp Lys Leu Leu Gly Gly Gly Asn Val Pro
 515 520 525
 Ala Phe Ala Leu Ala Ser Val Phe Ser Leu Ala Ala Gly Val Leu Ala
 530 535 540
 Val Ile Lys Leu Pro Lys Leu Ser Asn Asn Tyr Gln Ser Ala Gly Phe
 545 550 555 560

His Met Gly

<210> 25
 <211> 501
 <212> PRT
 <213> Daucus carota

<400> 25
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 Val Ala Ser Val Ala Cys Gly Ile Gln Phe Gly Trp Ala Leu Gln Leu
 35 40 45
 Ser Leu Leu Thr Pro Tyr Val Gln Glu Leu Gly Ile Pro His Ala Trp
 50 55 60
 Ser Ser Ile Ile Trp Leu Cys Gly Pro Leu Ser Gly Leu Leu Val Gln
 65 70 75 80
 Pro Ile Val Gly His Met Ser Asp Gln Cys Thr Ser Lys Tyr Gly Arg
 85 90 95
 Arg Arg Pro Phe Ile Val Ala Gly Gly Thr Ala Ile Ile Leu Ala Val
 100 105 110
 Ile Ile Ile Ala His Ser Ala Asp Ile Gly Gly Leu Leu Gly Asp Thr
 115 120 125
 Ala Asp Asn Lys Thr Met Ala Ile Val Ala Phe Val Ile Gly Phe Trp
 130 135 140

Ile	Leu	Asp	Val	Ala	Asn	Asn	Met	Thr	Gln	Gly	Pro	Cys	Arg	Ala	Leu	145	150	155	160
Leu	Ala	Asp	Leu	Thr	Gly	Asn	Asp	Ala	Arg	Arg	Thr	Arg	Val	Ala	Asn	165	170		175
Ala	Tyr	Phe	Ser	Leu	Phe	Met	Ala	Ile	Gly	Asn	Val	Leu	Gly	Tyr	Ala	180	185		190
Thr	Gly	Ala	Tyr	Ser	Gly	Trp	Tyr	Lys	Val	Phe	Pro	Phe	Ser	Leu	Thr	195	200		205
Ser	Ser	Cys	Thr	Ile	Asn	Cys	Ala	Asn	Leu	Lys	Ser	Ala	Phe	Tyr	Ile	210	215		220
Asp	Ile	Ile	Phe	Ile	Ile	Ile	Thr	Thr	Tyr	Ile	Ser	Ile	Ser	Ala	Ala	225	230		235
Lys	Glu	Arg	Pro	Arg	Ile	Ser	Ser	Gln	Asp	Gly	Pro	Gln	Phe	Ser	Glu	245	250		255
Asp	Gly	Thr	Ala	Gln	Ser	Gly	His	Ile	Glu	Glu	Ala	Phe	Leu	Trp	Glu	260	265		270
Leu	Phe	Gly	Thr	Phe	Arg	Leu	Leu	Pro	Gly	Ser	Val	Trp	Val	Ile	Leu	275	280		285
Leu	Val	Thr	Cys	Leu	Asn	Trp	Ile	Gly	Trp	Phe	Pro	Phe	Ile	Leu	Phe	290	295		300
Asp	Thr	Asp	Trp	Met	Gly	Arg	Glu	Ile	Tyr	Gly	Gly	Glu	Pro	Asn	Gln	305	310		315
Gly	Gln	Ser	Tyr	Ser	Asp	Gly	Val	Arg	Met	Gly	Ala	Phe	Gly	Leu	Met	325	330		335
Met	Asn	Ser	Val	Val	Leu	Gly	Ile	Thr	Ser	Val	Leu	Met	Glu	Lys	Leu	340	345		350
Cys	Arg	Ile	Trp	Gly	Ser	Gly	Phe	Met	Trp	Gly	Leu	Ser	Asn	Ile	Leu	355	360		365
Met	Thr	Ile	Cys	Phe	Phe	Ala	Met	Leu	Leu	Ile	Thr	Phe	Ile	Ala	Lys	370	375		380
Asn	Met	Asp	Tyr	Gly	Thr	Asn	Pro	Pro	Pro	Asn	Gly	Ile	Val	Ile	Ser	385	390		395
Ala	Leu	Ile	Val	Phe	Ala	Ile	Leu	Gly	Ile	Pro	Leu	Ala	Ile	Thr	Tyr	405	410		415
Ser	Val	Pro	Tyr	Ala	Leu	Val	Ser	Thr	Arg	Ile	Glu	Ser	Leu	Gly	Leu	420	425		430
Gly	Gln	Gly	Leu	Ser	Met	Gly	Val	Leu	Asn	Leu	Ala	Ile	Val	Val	Pro	435	440		445
Gln	Val	Ile	Val	Ser	Leu	Gly	Ser	Gly	Pro	Trp	Asp	Gln	Leu	Phe	Gly	450	455		460
Gly	Gly	Asn	Ser	Pro	Ala	Phe	Val	Val	Ala	Ala	Leu	Ser	Ala	Phe	Ala				

465		470		475		480
Ala Gly Leu Ile	Ala Leu Ile Ala Ile	Arg Arg Pro Arg Val	Asp Lys			
	485	490	495			
Ser Arg Leu His His						
	500					
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Met Ala Arg Gly Ser Gly Ala Gly Gly Gly Gly Gly Gly Gly Gly Gly						
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Gly Leu Glu Leu Ser Val Gly Val Gly Gly Gly Gly Ala Arg Gly Gly						
	20	25			30	
Gly Gly Gly Glu Ala Ala Ala Ala Val Glu Thr Ala Ala Pro Ile Ser						
	35	40			45	
Leu Gly Arg Leu Ile Leu Ser Gly Met Val Ala Gly Gly Val Gln Tyr						
	50	55			60	
Gly Trp Ala Leu Gln Leu Ser Leu Leu Thr Pro Tyr Val Gln Thr Leu						
	65	70		75		80
Gly Leu Ser His Ala Leu Thr Ser Phe Met Trp Leu Cys Gly Pro Ile						
	85	90			95	
Ala Gly Met Val Val Gln Pro Cys Val Gly Leu Tyr Ser Asp Arg Cys						
	100	105			110	
Thr Ser Lys Trp Gly Arg Arg Arg Pro Tyr Ile Leu Thr Gly Cys Val						
	115	120			125	
Leu Ile Cys Leu Ala Val Val Val Ile Gly Phe Ser Ala Asp Ile Gly						
	130	135			140	
Tyr Ala Met Gly Asp Thr Lys Glu Asp Cys Ser Val Tyr His Gly Ser						
	145	150		155		160
Arg Trp His Ala Ala Ile Val Tyr Val Leu Gly Phe Trp Leu Leu Asp						
	165	170			175	
Phe Ser Asn Asn Thr Val Gln Gly Pro Ala Arg Ala Leu Met Ala Asp						
	180	185			190	
Leu Ser Gly Arg His Gly Pro Gly Thr Ala Asn Ser Ile Phe Cys Ser						
	195	200			205	
Trp Met Ala Met Gly Asn Ile Leu Gly Tyr Ser Ser Gly Ser Thr Asn						
	210	215			220	
Asn Trp His Lys Trp Phe Pro Phe Leu Lys Thr Arg Ala Cys Cys Glu						
	225	230		235		240
Ala Cys Ala Asn Leu Lys Gly Ala Phe Leu Val Ala Val Ile Phe Leu						
	245	250			255	

Ser Leu Cys Leu Val Ile Thr Leu Ile Phe Ala Lys Glu Val Pro Phe
 260 265 270
 Lys Gly Asn Ala Ala Leu Pro Thr Lys Ser Asn Glu Pro Ala Glu Pro
 275 280 285
 Glu Gly Thr Gly Pro Leu Ala Val Leu Lys Gly Phe Arg Asn Leu Pro
 290 295 300
 Thr Gly Met Pro Ser Val Leu Ile Val Thr Gly Leu Thr Trp Leu Ser
 305 310 315 320
 Trp Phe Pro Phe Ile Leu Tyr Asp Thr Asp Trp Met Gly Arg Glu Ile
 325 330 335
 Tyr His Gly Asp Pro Lys Gly Thr Asp Pro Gln Ile Glu Ala Phe Asn
 340 345 350
 Gln Gly Val Arg Ala Gly Ala Phe Gly Leu Leu Leu Asn Ser Ile Val
 355 360 365
 Leu Gly Phe Ser Ser Phe Leu Ile Glu Pro Met Cys Arg Lys Val Gly
 370 375 380
 Pro Arg Val Val Trp Val Thr Ser Asn Phe Leu Val Cys Ile Ala Met
 385 390 395 400
 Ala Ala Thr Ala Leu Ile Ser Phe Trp Ser Leu Lys Asp Phe His Gly
 405 410 415
 Thr Val Gln Lys Ala Ile Thr Ala Asp Lys Ser Ile Lys Ala Val Cys
 420 425 430
 Leu Val Leu Phe Ala Phe Leu Gly Val Pro Leu Ala Val Leu Tyr Ser
 435 440 445
 Val Pro Phe Ala Val Thr Ala Gln Leu Ala Ala Thr Arg Gly Gly Gly
 450 455 460
 Gln Gly Leu Cys Thr Gly Val Leu Asn Ile Ser Ile Val Ile Pro Gln
 465 470 475 480
 Val Val Ile Ala Leu Gly Ala Gly Pro Trp Asp Glu Leu Phe Gly Lys
 485 490 495
 Gly Asn Ile Pro Ala Phe Gly Leu Ala Ser Gly Phe Ala Leu Ile Gly
 500 505 510
 Gly Val Ala Gly Ile Phe Leu Leu Pro Lys Ile Ser Lys Arg Gln Phe
 515 520 525
 Trp Ser Val Ser Met Gly Gly Gly His
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<211> 533

<212> PRT

<213> Ricinus communis

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Met	Gln	Ser	Ser	Thr	Ser	Lys	Glu	Asn	Lys	Gln	Pro	Pro	Ser	Ser	Gln	1	5	10	15
Pro	His	Pro	Pro	Pro	Leu	Met	Val	Ala	Gly	Ala	Ala	Glu	Pro	Asn	Ser	20	25	30	
Ser	Pro	Leu	Arg	Lys	Val	Val	Met	Val	Ala	Ser	Ile	Ala	Ala	Gly	Ile	35	40	45	
Gln	Phe	Gly	Trp	Ala	Leu	Gln	Leu	Ser	Leu	Leu	Thr	Pro	Tyr	Val	Gln	50	55	60	
Leu	Leu	Gly	Ile	Pro	His	Thr	Trp	Ala	Ala	Phe	Ile	Trp	Leu	Cys	Gly	65	70	75	80
Pro	Ile	Ser	Gly	Met	Leu	Val	Gln	Pro	Ile	Val	Gly	Tyr	His	Ser	Asp	85	90	95	
Arg	Cys	Thr	Ser	Arg	Phe	Gly	Arg	Arg	Arg	Pro	Phe	Ile	Ala	Ser	Gly	100	105	110	
Ala	Ala	Phe	Val	Ala	Ile	Ala	Val	Phe	Leu	Ile	Gly	Tyr	Ala	Ala	Asp	115	120	125	
Leu	Gly	His	Leu	Ser	Gly	Asp	Ser	Leu	Asp	Lys	Ser	Pro	Lys	Thr	Arg	130	135	140	
Ala	Ile	Ala	Ile	Phe	Val	Val	Gly	Phe	Trp	Ile	Leu	Asp	Val	Ala	Asn	145	150	155	160
Asn	Met	Leu	Gln	Gly	Pro	Cys	Arg	Ala	Leu	Leu	Ala	Asp	Leu	Ser	Gly	165	170	175	
Thr	Ser	Gln	Lys	Lys	Thr	Arg	Thr	Ala	Asn	Ala	Leu	Phe	Ser	Phe	Phe	180	185	190	
Met	Ala	Val	Gly	Asn	Val	Leu	Gly	Tyr	Ala	Ala	Gly	Ala	Tyr	Thr	His	195	200	205	
Leu	Tyr	Lys	Leu	Phe	Pro	Phe	Thr	Lys	Thr	Thr	Ala	Cys	Asp	Val	Tyr	210	215	220	
Cys	Ala	Asn	Leu	Lys	Ser	Cys	Phe	Phe	Ile	Ser	Ile	Val	Leu	Leu	Leu	225	230	235	240
Ser	Leu	Thr	Val	Leu	Ala	Leu	Ser	Tyr	Val	Lys	Glu	Lys	Pro	Trp	Ser	245	250	255	
Pro	Asp	Gln	Ala	Val	Asp	Asn	Ala	Glu	Asp	Asp	Thr	Ala	Ser	Gln	Ala	260	265	270	
Ser	Ser	Ser	Ala	Gln	Pro	Met	Pro	Phe	Phe	Gly	Glu	Ile	Leu	Gly	Ala	275	280	285	
Phe	Lys	Asn	Leu	Lys	Arg	Pro	Met	Trp	Ile	Leu	Leu	Leu	Val	Thr	Cys	290	295	300	
Leu	Asn	Trp	Ile	Ala	Trp	Phe	Pro	Phe	Leu	Leu	Phe	Asp	Thr	Asp	Trp	305	310	315	320
Met	Gly	Arg	Glu	Val	Tyr	Gly	Gly	Asp	Ser	Ser	Gly	Ser	Ala	Glu	Gln				

				325				330				335			
Leu	Lys	Leu	Tyr 340	Asp	Arg	Gly	Val	Arg 345	Ala	Gly	Ala	Leu	Gly 350	Leu	Met
Leu	Asn	Ser 355	Val	Val	Leu	Gly	Phe 360	Thr	Ser	Leu	Gly	Val 365	Glu	Val	Leu
Ala	Arg 370	Gly	Val	Gly	Gly	Val 375	Lys	Arg	Leu	Trp	Gly 380	Ile	Val	Asn	Phe
Val 385	Leu	Ala	Val	Cys 390	Leu	Ala	Met	Thr	Val	Leu 395	Val	Thr	Lys	Gln	Ala 400
Glu	Ser	Thr	Arg	Arg 405	Phe	Ala	Thr	Val	Ser 410	Gly	Gly	Ala	Lys	Val 415	Pro
Leu	Pro	Pro	Pro 420	Ser	Gly	Val	Lys	Ala 425	Gly	Ala	Leu	Ala	Leu 430	Phe	Ala
Val	Met	Gly 435	Val	Pro	Gln	Ala	Ile 440	Thr	Tyr	Ser	Ile	Pro 445	Phe	Ala	Leu
Ala	Ser 450	Ile	Phe	Ser	Asn	Thr 455	Ser	Gly	Ala	Gly	Gln 460	Gly	Leu	Ser	Leu
Gly 465	Val	Leu	Asn	Leu	Ser 470	Ile	Val	Ile	Pro	Gln 475	Met	Ile	Val	Ser	Val 480
Ala	Ala	Gly	Pro	Trp 485	Asp	Ala	Leu	Phe	Gly 490	Gly	Gly	Asn	Leu	Pro 495	Ala
Phe	Val	Val	Gly 500	Ala	Val	Ala	Ala	Leu 505	Ala	Ser	Gly	Ile	Phe 510	Ala	Leu
Thr	Met	Leu 515	Pro	Ser	Pro	Gln	Pro 520	Asp	Met	Pro	Ser	Ala 525	Lys	Ala	Leu
Thr	Ala 530	Ala	Phe	His											
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Met 1	Glu	Pro	Leu	Ser 5	Ser	Thr	Lys	Gln	Ile 10	Asn	Asn	Asn	Asn	Asn	Leu
Ala	Lys	Pro	Ser 20	Ser	Leu	His	Val	Glu 25	Thr	Gln	Pro	Leu	Glu 30	Pro	Ser
Pro	Leu	Arg 35	Lys	Ile	Met	Val	Val 40	Ala	Ser	Ile	Ala	Ala 45	Gly	Val	Gln
Phe	Gly 50	Trp	Ala	Leu	Gln	Leu 55	Ser	Leu	Leu	Thr	Pro 60	Tyr	Val	Gln	Leu
Leu 65	Gly	Ile	His	His	Thr 70	Trp	Ala	Ala	Tyr	Ile 75	Trp	Leu	Cys	Gly	Pro 80

Ile	Ser	Gly	Met	Leu	Val	Gln	Pro	Ile	Val	Gly	Tyr	His	Ser	Asp	Arg	85	90	95
Cys	Thr	Ser	Arg	Phe	Gly	Arg	Arg	Arg	Pro	Phe	Ile	Ala	Ala	Gly	Ser	100	105	110
Ile	Ala	Val	Ala	Ile	Ala	Val	Phe	Leu	Ile	Gly	Tyr	Ala	Ala	Asp	Leu	115	120	125
Gly	His	Ser	Phe	Gly	Asp	Ser	Leu	Asp	Gln	Lys	Val	Arg	Pro	Arg	Ala	130	135	140
Ile	Gly	Ile	Phe	Val	Val	Gly	Phe	Trp	Ile	Leu	Asp	Val	Ala	Asn	Asn	145	150	155
Met	Leu	Gln	Gly	Pro	Cys	Arg	Ala	Leu	Leu	Gly	Asp	Leu	Cys	Ala	Gly	165	170	175
Asn	Gln	Arg	Lys	Thr	Arg	Asn	Ala	Asn	Ala	Phe	Phe	Ser	Phe	Phe	Met	180	185	190
Ala	Val	Gly	Asn	Val	Leu	Gly	Tyr	Ala	Ala	Gly	Ala	Tyr	Ser	Lys	Leu	195	200	205
Tyr	His	Val	Phe	Pro	Phe	Thr	Lys	Thr	Lys	Ala	Cys	Asn	Val	Tyr	Cys	210	215	220
Ala	Asn	Leu	Lys	Ser	Cys	Phe	Phe	Leu	Ser	Ile	Ala	Leu	Leu	Thr	Val	225	230	235
Leu	Ala	Thr	Ser	Ala	Leu	Ile	Tyr	Val	Lys	Glu	Thr	Ala	Leu	Thr	Pro	245	250	255
Glu	Lys	Thr	Val	Val	Thr	Thr	Glu	Asp	Gly	Gly	Ser	Ser	Gly	Gly	Met	260	265	270
Pro	Cys	Phe	Gly	Gln	Leu	Ser	Gly	Ala	Phe	Lys	Glu	Leu	Lys	Arg	Pro	275	280	285
Met	Trp	Ile	Leu	Leu	Leu	Val	Thr	Cys	Leu	Asn	Trp	Ile	Ala	Trp	Phe	290	295	300
Pro	Phe	Leu	Leu	Phe	Asp	Thr	Asp	Trp	Met	Gly	Lys	Glu	Val	Tyr	Gly	305	310	315
Gly	Thr	Val	Gly	Glu	Gly	His	Ala	Tyr	Asp	Met	Gly	Val	Arg	Glu	Gly	325	330	335
Ala	Leu	Gly	Leu	Met	Leu	Asn	Ser	Val	Val	Leu	Gly	Ala	Thr	Ser	Leu	340	345	350
Gly	Val	Asp	Ile	Leu	Ala	Arg	Gly	Val	Gly	Gly	Val	Lys	Arg	Leu	Trp	355	360	365
Gly	Ile	Val	Asn	Phe	Leu	Leu	Ala	Ile	Cys	Leu	Gly	Leu	Thr	Val	Leu	370	375	380
Val	Thr	Lys	Leu	Ala	Gln	His	Ser	Arg	Gln	Tyr	Ala	Pro	Gly	Thr	Gly	385	390	395
																		400

BT

sub C1
cont.

Ala Leu Gly Asp Pro Leu Pro Pro Ser Glu Gly Ile Lys Ala Gly Ala
405 410 415

Leu Thr Leu Phe Ser Val Leu Gly Val Pro Leu Ala Ile Thr Tyr Ser
420 425 430

Ile Pro Phe Ala Leu Ala Ser Ile Phe Ser Ser Thr Ser Gly Ala Gly
435 440 445

Gln Gly Leu Ser Leu Gly Val Leu Asn Leu Ala Ile Val Ile Pro Gln
450 455 460

Met Phe Val Ser Val Leu Ser Gly Pro Trp Asp Ala Leu Phe Gly Gly
465 470 475 480

Gly Asn Leu Pro Ala Phe Val Val Gly Ala Val Ala Ala Leu Ala Ser
485 490 495

Gly Ile Leu Ser Ile Ile Leu Leu Pro Ser Pro Pro Pro Asp Met Ala
500 505 510

Lys Ser Val Ser Ala Thr Gly Gly Gly Phe His
515 520

Concluded